

Notice of Allowability

Application No.

10/736,887

Examiner

Robert P. Swiatek

Applicant(s)

D'AUSILIO ET AL.

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed 21 September 2006; telephone interview of 13 October 2006.
2. ☒ The allowed claim(s) is/are 57-63, 103-109 and 111-114.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 9-24-04; 9-27-04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 10-16-06
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Robert P. Swiatek
ROBERT P. SWIATEK
PRIMARY EXAMINER
ART UNIT 333 3643

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicants, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Thomas N. Giaccherini on 13 October 2006.

The application has been amended as follows: In claim 57, line 1, the expression "11 and 12" has been changed to –between 30 and 3000 GigaHertz–; in claim 103, line 13, "to provide a" has been changed to –and providing–; in claim 104, line 2, "services" has been changed to –service–; in claim 105, line 2, and claim 106, line 2, each occurrence of "system" has been changed to –service–; in claim 107, line 2, the phrase "100 GHz and beyond" has been changed to –at least 100 GHz are provided–; claims 110, 115, 116 have been canceled without prejudice; in the abstract, line 1, the expression "is disclosed" has been deleted.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: The claims in this application have been allowed because the prior art does not disclose an apparatus having the combination of a boom, a nuclear reactor, a radiator for dissipating heat, an electric propulsion means, and a propellant tank coupled to the boom, with the apparatus being positioned in orbit and providing a high-bandwidth service to a terminal not in Earth orbit. While nuclear

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spacecraft with communication elements able to relay photographs and other digitized data to Earth terminals are known—they typically are used for deep space missions to the outer planets—high-bandwidth service heretofore has not been a requirement or a desirable adjunct for deep space probes. High bit-rate, as opposed to high-bandwidth, transmissions have been highly valued. To date, high-bandwidth service is supplied by relatively small geostationary satellites or low Earth orbit satellite constellations that sport solar panels and gas jets as energy and motive force providers. Hence, it is not considered obvious to one skilled in the art to combine the nuclear spacecraft designs of the prior art with the high-bandwidth communication systems of individual, conventionally-powered satellites.

Any comments considered necessary by applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

The patents to Boden (US 3,279,176), Shoji (US 4,781,018), and Ensley (5,520,356) have been cited to provide additional examples of electromagnetically-propelled satellites.

This case is being passed to issue with allowed claims 103, 57-63, 104-109, 111-114, renumbered as claims 1-18.

RPS: 0571/272-6894

16 October 2006

**ROBERT P. SWIATEK
PRIMARY EXAMINER****ART UNIT 3333643**